

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARIA RONAY

Appeal 2007-3153
Application 10/618,751
Technology Center 3700

Decided: November 20, 2007

Before BRADLEY R. GARRIS, LINDA M. GAUDETTE, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

1 Appellant appeals the final rejection of claims 1, 4-9, and 20-22 under 35 U.S.C. § 134. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

INTRODUCTION

Appellant claims a method for planarizing a surface using a liquid slurry composition comprising abrasive particles and solid lubricant particles

(claim 1). The solid lubricant particles may include poly(tetrafluoroethylene) (claim 1).

Claim 1¹ is illustrative:

1. A method for planarizing a surface which is formed on a substrate which comprises providing on the surface to be planarized a liquid slurry composition comprising abrasive particles and solid lubricant particles; wherein the lubricant particles are selected from the group consisting of poly(tetrafluoroethylene), fluoroethylene-propylene copolymers, perfluoroalkoxy resins, polyvinylidene fluoride and mixtures thereof;

and wherein the amount of solid lubricant particles is about 0.3 to about 10 % by weight;

and contacting said surface with a polishing pad.

The Examiner relies on the following prior art references as evidence of unpatentability:

Molnar	6,283,829 B1	Sep. 4, 2001
Chang	2003/0211743 A1	Nov. 13, 2003

The rejections as presented by the Examiner are as follows:

1. Claims 1, 4, 6, 8, and 20-22 are rejected under 35 U.S.C. § 102(b) as being unpatentable over Molnar.
2. Claims 5 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Molnar.
3. Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Molnar in view of Chang.

¹ Because Appellant's copy of the claims in the Claims Appendix attached to the Brief contains numerous errors, we refer in this decision to the corrected copy of the claims provided by the Examiner in the Answer. Appellant has not contested the corrections to the claims provided by the Examiner.

Appellant separately argues independent claims 1 and 20 and dependent claims 5 and 7. Accordingly, dependent claims 4, 6, 8, 9, and 22, and 21 stand or fall with claims 1 and 20, respectively.

OPINION

35 U.S.C. § 102(b) REJECTION OVER MOLNAR INDEPENDENT CLAIMS 1 AND 20

Appellant argues Molnar is concerned only with polishing pads that require abrasive particles contained therein (i.e., fixed abrasive finishing elements) (Br. 5). Appellant argues that Molnar's disclosures to use slurries that are free of abrasive particles, to use solid or liquid lubricants and to add the lubricant to the polishing slurry or the fixed abrasive finishing element would require one of ordinary skill to make specific fortuitous selections among a number of combinations such that Molnar does not anticipate the claimed invention (Br. 6).

We have considered all of Appellant's arguments and are unpersuaded for the reasons below.

Molnar discloses an in-situ friction sensor for chemical mechanical polishing (CMP) and other finishing techniques (Molnar, col. 3, ll. 18-22). Molnar discloses that finishing compositions, such as CMP slurries, are generally known for finishing workpieces (Molnar, col. 22, ll. 65-66). Molnar also discloses that the CMP slurry usually contains small abrasive particles in a water-based mixture (Molnar, col. 23, ll. 5-7, 21-24).

Molnar further discloses that a lubricant may be delivered to the interface between the workpiece being finished and the finishing element finishing surface by containing it in the finishing composition, preferably in

an aqueous finishing composition (Molnar, col. 28, ll. 50-60). Molnar discloses that it is “preferred” to separately supply the abrasive particles and lubricant for better finishing control (Molnar, col. 29, ll. 8-11). Molnar discloses that a preferred type of lubricant is one that “can be” included in the finishing element such as a liquid or solid lubricant (Molnar, col. 29, ll. 12-23). Molnar further discloses that the lubricant may be in solid form and may be particles of polytetrafluoroethylene (Molnar, col. 29, ll. 21-22; col. 30, ll. 1-4).

Molnar discloses the concentration of lubricant in the solution is between 0.1 to 15% by weight of the total fluid between the interface (Molnar, col. 28, ll. 7-11). Molnar discloses using a finishing element (i.e., polishing pad) to contact the workpiece being finished (Molnar, col. 5, ll. 38-40).

Contrary to Appellant’s argument that Molnar is limited to fixed abrasive finishing elements (i.e., finishing elements having the abrasive particles contained in the finishing element), Molnar’s disclosure, as noted above, indicates using a CMP finishing composition that includes abrasive particles and lubricant, which may be particles of polytetrafluoroethylene (Molnar, col. 23, ll. 5-7, 21-24; col. 28, ll. 56-59; col. 30, ll. 1-5).

Though Molnar discloses that preferably the abrasive and lubricant are separately provided for better finishing control and that the lubricant “can be” included in the finishing element (i.e., polishing pad) (Molnar, col. 29, ll. 8-13), such disclosures are merely Molnar’s preferred embodiments. Such preferred embodiments do not change the fact the Molnar broadly discloses, albeit in a non-preferred embodiment, a liquid slurry composition comprising abrasive particles and polytetrafluoroethylene particles (Molnar,

col. 23, ll. 5-7, 21-24; col. 28, ll. 56-59; col. 30, ll. 1-5). All disclosures of the prior art, including non-preferred embodiments, must be considered.

In re Lamberti, 545 F.2d 747, 750 (CCPA 1976).

Furthermore, contrary to Appellant's argument that Molnar's disclosure would require one of ordinary skill in the art to make fortuitous selections among Molnar's disclosure to meet Appellant's claimed invention, we find that Molnar clearly teaches a non-preferred embodiment that satisfies Appellant's claimed invention. That is, we find that this embodiment would be at once envisaged by one with ordinary skill in this art. *In re Petering*, 301 F.2d 676, 681 (CCPA 1962).

For the above reasons, we agree with the Examiner that Molnar anticipates Appellant's claimed invention. We affirm the Examiner's § 102(b) rejection of claims 1, 4, 6, 8, and 20-22 over Molnar.

35 U.S.C. § 103(a) OVER MOLNAR: CLAIMS 5 AND 7

Appellant argues that Molnar's disclosure to use lubricants in fixed abrasive finishing pads (i.e., polishing pads) provides no motivation to employ a solid lubricant in polishing compositions that contain abrasive particles (Br. 7).

We have considered Appellant's argument, and are unpersuaded for the reasons below.

As a threshold matter, we note that Appellant does not contest the Examiner's conclusion, based on *In re Aller*, 220 F.2d 454, 456 (CCPA 1955), that it would have been obvious to provide Molnar with the claimed lubricant particle sizes (claim 5) and amount of abrasive particles (claim 7) (Ans. 5). Specifically, Appellant does not contest the Examiner's

determination that since Molnar discloses the general conditions of claims 5 and 7, discovering the optimum or workable ranges for the size of the lubricant particles and the amount of the abrasive particles would have involved only routine skill (Ans. 5).

Rather, Appellant's arguments are directed to whether motivation exists for combining solid lubricant particles with a polishing composition that contains abrasive particles (Br. 7). However, as we found above, Molnar discloses a liquid slurry composition comprising abrasive particles and solid polytetrafluoroethylene lubricant particles, wherein the lubricant particles are present in an amount of 0.1 to 15 % by weight. Therefore, Molnar discloses Appellant's argued distinction, such that no motivation is required for combining the solid lubricant particles with a polishing composition that contains abrasive particles. Accordingly, Appellant's argument is unpersuasive.

For the above reasons, we affirm the Examiner's § 103(a) rejection of claims 5 and 7 over Molnar.

NON-ARGUED § 103(a) REJECTION

Appellant does not argue the § 103(a) rejection of claim 9 over Molnar in view of Chang. Rather, Appellant bases the viability of this rejection on whether the § 102(b) rejection of claim 1 over Molnar is proper.

We determined that the Examiner properly found that claim 1 is anticipated by Molnar for the reasons indicated above. Accordingly, for the same reasons, we affirm the § 103(a) rejection of claim 9 over Molnar in view of Chang.

DECISION

The Examiner's rejection of claims 1, 4, 6, 8, and 20-22 under 35 U.S.C. § 102(b) as being unpatentable over Molnar is AFFIRMED.

The Examiner's rejection of claims 5 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Molnar is AFFIRMED.

The Examiner's rejection of claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Molnar in view of Chang is AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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